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6.5 RECENT PROGRESS IN THE URBANA MST RADAR

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Since the 1984 Workshop, several improvements have been put into effect at the Urbana radar, which operates at 40.92 MHz with a peak power of about 1.2 MW into a 100 x 120 m phased array antenna.

A new accelerated data-acquisition system has been put into operation (BOWHILL and RENNIER, 1986). This permits continuous data acquisition at 60 altitudes from 10 to 90 km, and has also improved the efficiency of the receiving system by a factor of two.

A new beam-steering system has been installed (BOWHILL and MEREWETHER, 1986) which now allows rapid switching between two beams, thereby giving both components of the wind velocity. These beam directions have been calibrated against radiosonde calculations.

The new transmit/receive switch described at the 1984 Workshop (YU, 1984) has been assembled and is in course of installation in the radar.

With these changes, the radar is in regular operation for two hours every day around local noon gathering stratospheric and mesospheric data. Special campaigns are mounted in addition under severe weather conditions.

REFERENCES

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